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|  | ASIA-PACIFIC TELECOMMUNITY | Document No: |
| **The 4th Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-4)** | **APG23-4/OUT-23** |
| 15 – 20 August 2022, Bangkok, Thailand | 20 August 2022 |

Working Party 3

**preliminary views on WRC-23 agenda item 1.14**

**Agenda Item 1.14:**

*to review and consider possible adjustments of the existing or possible new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz, to ensure alignment with more up-to-date remote-sensing observation requirements, in accordance with Resolution* ***662 (WRC-19)****;*

**1. Background**

The scientific and technology developments for passive microwave sensor measurements have evolved over the last 20 years. WRC-2000 were agreed under the AI 1.16 to assign the frequency bands of 235-238 GHz and 250-252 GHz within the frequency range of 231.5-252 GHz for the earth exploration satellite service (EESS) (passive) for the use of passive microwave remote sensing systems. It is appropriate to ensure that the frequency allocations to the EESS (passive) agreed in 2000 correspond to up-to-date observation requirements for passive microwave sensing. Some passive sensor systems under development plan to operate on some channels in the frequency range 239-248 GHz, given the specific characteristics of this frequency band for ice‑cloud analysis. As a result, it may be necessary to consider some adjustment/extension of the EESS (passive) allocations within the frequency range 231.5-252 GHz and the effect on the other primary services in the frequency range 231.5-252 GHz would have to be studied and the EESS (passive) allocations possibly adjusted.

ITU-R Working Party (WP) 7C is responsible to study this issue under agenda item 1.14. WP 7C received several reply liaisons statements from contributing groups containing relevant technical and operating characteristics and protection criteria for other services. Contribution was received from the United States (Annex 21 to Document 7C/105-E) which will contribute to review the existing primary allocations to the EESS (passive) in the frequency range 231.5-252 GHz to show the allocations relative to observation requirements of passive microwave sensors. This document could lead to a future ITU-R report. In addition of that studies related to possible EESS (passive) allocations in the frequency range 231.5-252 GHz and working party responses are documented at Chairmans report of WP 7C. Another contribution received from European Space Agency, European Organisation for the Exploitation of Meteorological Satellites (Document [7C/59](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R19-WP7C-C-0059)). This contribution provides information on the Ice Cloud Imager (ICI) instrument of the second generation of the EUMETSAT Polar System (EPS-SG)) and its relevance under WRC-23 Agenda Item 1.14 considerations. Working document towards preliminary draft CPM text on WRC-23 agenda item 1.14 has been presented in the WP 7C chairman’s report Annex-31 [Doc-7C/316, Doc-7C/317 and Doc-7C/350].

**2. Documents**

-Input Documents: APG23-4/INP-09(JPN), APG23-4/INP-16(AUS), APG23-4/INP-21(BGD), APG23-4/INP-36(KOR), APG23-4/INP-42(CHN), APG23-4/INP-63(IND), APG23-4/INP-68(MLA)

- Information Documents: APG23-4/INF-01, APG23-4/INF-03 (WMO), APG23-4/INF-21 (ASMG), APG23-4/INF-27(IARU), APG23-4/INF-28 (CITEL), APG23-4/INF-44 (RCC)

**3. Summary of Discussions**

**-3.1 Summary of Members’ view**

**3.1.1 Japan-Document** [**APG23-4/INP-09**](https://acmagovau-my.sharepoint.com/personal/christopher_hose_acma_gov_au/Documents/Desktop/WRC-23/APG23-4/Editorial%20Committe/OUT%20review/WP3/APG23-4-INP-09_J-3_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1.A_9.1.D_and_RES.655.docx)

Japan supports the consideration of possible adjustments of the existing or possible new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz in accordance with Resolution 662 (WRC-19) which invites the review and study by ITU-R. Any changes to the EESS (passive) allocations in the frequency range 231.5-252 GHz shall not adversely affect the operation of other primary services allocated in this frequency range.

**3.1.2 Australia-Document** [**APG23-4/INP-16**](https://acmagovau-my.sharepoint.com/personal/christopher_hose_acma_gov_au/Documents/Desktop/WRC-23/APG23-4/Editorial%20Committe/OUT%20review/WP3/APG23-4-INP-16_AUS_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1Topics_a_and_d.docx)

Australia supports the addition of new primary allocations to the EESS (passive) in the bands 239.2 ‑ 242.2 GHz and 244.2 ‑ 247.2 GHz, and possible adjustments to the existing Fixed Service and Mobile Service allocations in the 239.2 ‑ 241 GHz band, in order to maximize the benefit to all involved services.

**3.1.3 Bangladesh (People’s Republic of)-Document** [**APG23-4/INP-21**](https://acmagovau-my.sharepoint.com/personal/christopher_hose_acma_gov_au/Documents/Desktop/WRC-23/APG23-4/Editorial%20Committe/OUT%20review/WP3/APG23-4-INP-21_BGD_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.13_and_1.14.docx)

Bangladesh supports the consideration of possible adjustments of the existing or possible new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz in accordance with Resolution 662 (WRC-19) subject to the outcome of the study results. Any changes to the EESS (passive) allocations in the frequency range 231.5-252 GHz shall not adversely affect the operation of other primary services.

**3.1.4** **Korea (Republic of)-Document** [**APG23-4/INP-36**](https://acmagovau-my.sharepoint.com/personal/christopher_hose_acma_gov_au/Documents/Desktop/WRC-23/APG23-4/Editorial%20Committe/OUT%20review/WP3/APG23-4-INP-36_KOR_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_and_9.1Topic_a_and_d.docx)

The Republic of Korea supports the consideration of possible adjustments of the existing or possible new primary allocations to EESS (passive) in the frequency range 231.5-252 GHz while not adversely affecting the operation of other primary services allocated in this frequency band.

**3.1.5 China (People’s Republic of)-Document** [**APG23-4/INP-42**](https://acmagovau-my.sharepoint.com/personal/christopher_hose_acma_gov_au/Documents/Desktop/WRC-23/APG23-4/Editorial%20Committe/OUT%20review/WP3/APG23-4-INP-42_China_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1Topic_a_and_d.docx)

At present, China supports method B in the draft CPM text. China can consider the proposed adding the new allocations for EESS (passive) in 239.2-242.2GHz and 244.2-247.2GHz bands, and adjusting the existing FS and MS allocations from 239.2-241GHz (1.8GHz bandwidth) to 235-238GHz (3GHz bandwidth). China also supports continuing study and improvement on the methods in order not to adversely affect the operation of the other primary services.

**3.1.6 India-Document** [**APG23-4/INP-63**](https://acmagovau-my.sharepoint.com/personal/christopher_hose_acma_gov_au/Documents/Desktop/WRC-23/APG23-4/Editorial%20Committe/OUT%20review/WP3/APG23-4-INP-63_India_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1Topic_a_and_d.docx)

India supports the consideration of possible adjustments of the existing or new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz in accordance with Resolution 662 (WRC-19) subject to the outcome of the results of ITU-R studies. Any changes to the EESS (passive) allocations in the frequency range 231.5-252 GHz should not adversely affect the operation of other primary services in this frequency band.

**3.1.7 Malaysia-**[**APG23-4/INP-68**](https://acmagovau-my.sharepoint.com/personal/christopher_hose_acma_gov_au/Documents/Desktop/WRC-23/APG23-4/Editorial%20Committe/OUT%20review/WP3/APG23-4-INP-68_MLA_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_and_1.14.docx)

Malaysia supports the possible addition of new primary allocations to Earth exploration-satellite service (EESS) (passive) in the 239.2-242.2 GHz and 244.2-247.2 GHz frequency bands, subject to the completion of the relevant studies by ITU-R for this agenda item.

**3.2 Summary of issues raised during the meeting**

None.

**4. APT Preliminary View(s)**

APT Members support possible adjustments to the existing or possible new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz in accordance with Resolution **662** (WRC-19) subject to the outcome of the study results. However, any changes to the EESS (passive) allocations in the frequency range 231.5-252 GHz shall not adversely affect the operation of other primary services allocated in this frequency range.

**5. Other View(s) from APT Members**

None

**6. Issues for Consideration at Next APG Meeting**

APT preliminary view(s) on this topic should be reviewed, if necessary revise, in accordance with the progress of studies in ITU-R Working Parties and Contributions from APT Members. APT Members are encouraged to participate the studies in ITU-R, and to submit their views to the next APG meetings.

**7. Views from Other Organizations**

**7.1 Regional Groups**

**7.1.1 ASMG** - **Document APG23-4/INF-21**

Follow-up studies to emphasize on not imposing any constrains on fixed service and mobile service in the band 239.2 - 241 GHz in accordance with Resolution 662, and to consider the potential shift of existing allocations of the fixed and mobile service to the band 235-238 GHz, provided that no constrains imposed on the fixed and mobile service in this band.

**7.1.2 CITEL** - **Document APG23-4/INF-28**

Some administrations support studies to review the existing EESS (passive) allocations and consider possible adjustments to existing allocations or new allocations to the EESS (passive) within the frequency range 231.5-252 GHz in accordance with Resolution 662 (WRC-19), without unduly constraining the primary services currently allocated.

**7.1.3 RCC – Document APG23-4/INF-44**

The RCC Telecommunication Administrations consider the need to adjust and add possible new allocations to EESS (passive) in the frequency band 231.5-252 GHz.

**7.2 International organizations**

**7.2.1 WMO** - **Document APG23-4/INF-03**

WMO supports conducting studies to align or add possible new allocations to the EESS (passive) in the 231.5-252 GHz frequency range with current and future operational requirements. For covering ice cloud measurements, the assessment of the bands 239.2-242.2 GHz and 244.2-247.2 GHz is supported.

**7.2.1 IARU- Document APG23-4/INF-27**

The IARU supports retention of the 248-250 GHz primary allocations and the 241 – 248 GHz secondary allocations to the amateur and amateur-satellite services. Within this frequency range there is ongoing experimentation by amateur service stations, which is expected to grow as technology and equipment availability improves. Any introduction of EESS into the 241-250 GHz frequency range should not unduly constrain the ongoing experimental use by the amateur and amateur satellite services in their secondary and primary allocations or their future development.